1: Gifford E-4,5 (1920-1921) 1929 OU9 Tonga OU9

a chief to forgive, even if the offender was a commoner; other chiefs would laugh at him if he did not. But perchance the seducer were not forgiven he would be killed at the first opportunity.

Regarding theft, the opinion of all early voyagers is expressed by Wilson (66, p. 385). "In their propensity to theft they [the Polynesians in general] too much resembled each other, though the Friendly Islanders seemed the most daring." Unfortunately we know nothing of the extent of thievery among the Tongans themselves, but presumably it was rare.

LIFE CRISES

BIRTH

When the time is nearly arrived for the delivery of a child, a messenger (usually the husband) is sent off for the midwife and should the first person the messenger meet be of the female sex, it is said that the child will be a girl, and vice versa. (Note from W. H. Murley.)

For the first ten days after childbirth the mother's diet was exclusively yams and hot coconut milk (*veifua*). At childbirth both mother and child were painted with turmeric (*enga*) and oil immediately. Collocott says (10, p. 418) that the mother must not leave the house or bathe for five days. Each day for two or three months the mother and child were given a sponge bath and repainted with turmeric, said to keep the mother and child warm and to induce the mother to produce milk quickly and plentifully. The use of turmeric is today yielding to fuller's earth. The following tale refers to the use of turmeric:

> Mahina was a hero who lived at Vaipoa in Vavau. Mahina had a god who guarded the water (a little bit of the sea) where Mahina bathed. A woman who had recently borne a child, and was therefore painted with turmeric, bathed in this water. The god disliked the smell of the turmeric in the water and shifted his quarters. He gulped the water up into his mouth and set off. Near Makave, Vavau, he met another god who made him laugh, and he spilt some of the water, which gave rise to the water called Finekata. Nearby he spilt some more out of his mouth which gave rise to the water called Veengangana (literally, spilt water). He went on to Tongatabu and established himself on the weather shore near Vaotuu, but another turmeric-painted matron disturbed him by bathing in his water, and so he packed up again and finally discharged the water at Tufumahina, Tongatabu.

That perhaps the newborn child was regarded as of supernatural origin is suggested by the word *louuluotua* (hair of the god), applied to the hair on the head of a child when born.

The practice of burying the umbilical cord and of marking the burial spot is still the custom. Usually the cords are buried in mounds just outside the house and often sweet-smelling flowers are planted over the spot.

2: Mariner F-5 (1806-1810) 1818
OU9 Tonga OU9

the shore in a small canoe which they had in tow, and be led along the shelf by his matabooles, wading through the water, which was scarcely three feet deep; to this also his friends objected, being apprehensive that, if he left the large canoe in the way he proposed, and approached too near the beach, his temper might be so worked into a rage by the insults of the natives, as to induce him to rush on shore, and run the risk of being killed; but Finow replied, by way of apology for not yielding to their advice, that it was the part of a brave man to keep himself perfectly cool and collected when insulted, and that he was resolved to act up to this character. Matters being thus arranged, he went into the small canoe, and was led along by the matabooles. As they drew near to the shore, many of the natives called out to them, saying a number of things in derision: one threw them a piece of yam, another a piece of pork, telling them it was to be the last they should get from Vavaoo *; then they enquired whether they were not quite tired of living upon the scanty allowance of the Hapai

* Vavaoo is famous for good yams, and great quantities of hogs, as well as for *gnatoo* of a finer quality, and better printed; the tree, from which the printing colour is procured, being very scarce, and very inferior, at the Hapai islands.

3: Mariner F-5 (1806-1810) 1818
OU9 Tonga OU9

alike; the grooved side of the mallet is chiefly used first, and the smooth side afterwards. They generally beat alternately: early in the morning, when the air is calm and still, the beating of gnatoo at all the plantations about has a very pleasing effect; some sounds being near at hand, and others almost lost by the distance, some a little more acute, others more grave, and all with remarkable regularity, produce a musical variety that is very agreeable, and not a little heightened by the singing of the birds, and the cheerful influence of the scene. When one hand is fatigued, the mallet is dexterously transferred to the other, without occasioning the smallest sensible delay. In the course of about half an hour it is brought to a sufficient degree of thinness, being so much spread laterally as to be now nearly square when unfolded; for it must be observed, that they double it several times during the process, by which means it spreads more equally, and is prevented from breaking. The bark thus far prepared is called *fetagi*, and is mostly put aside till they have a sufficient quantity to enable them to go on at a future time with the second part of the operation, which is called *cocanga*, or printing with *coca*. When this is to be done, a number employ themselves in gathering the berries of the *toe*, the pulp

3: Mariner F-5 (1806-1810) 1818
OU9 Tonga OU9

of which serves for paste; but the mucilaginous substance of the *mahoá* root is sometimes substituted for it: at the same time others are busy scraping off the soft bark of the *coca* tree and the *tooi-tooi* tree, either of which when wrung out, without water, yields a reddish brown juice, to be used as a die. The *cobéchi*, or stamp is formed of the dried leaves of the *páoongo* sewed together so as to be of a sufficient size, and afterwards embroidered, according to various devices, with the wiry fibre of the cocoa-nut husk*; they are generally about two feet long, and a foot and a half broad: they are tied on to the convex side of half cylinders of wood, usually about six or eight feet long, to admit two or three similar operations to go on at the same time. The stamp being thus fixed, with the embroidered side uppermost, a piece of the prepared bark† is laid on it, and smeared over with a folded piece of *gnatoo* dipped in one of the reddish brown liquids before mentioned, so that the whole surface of the prepared bark becomes stained, but particularly those parts raised by the design in the stamp: another piece of

* Making these *cobechis* is another employment of the women, and mostly women of rank.

† The edges of the beaten bark, which is generally hard, knotty, and ragged, are cut off straight.

3: Mariner F-5 (1806-1810) 1818
OU9 Tonga OU9

gnatoo is now laid on it, but not quite so broad, which adheres by virtue of the mucilaginous quality in the die, and this, in like manner, is smeared over; then a third in the same way; and the substance is now three layers in thickness: others are then added to increase it in length and breadth, by pasting the edges of these over the first, but not so as there shall be in any place more than three folds, which is easily managed, as the margin of one layer falls short of the margin of the one under it. During the whole process each layer is stamped separately, so that the pattern may be said to exist in the very substance of the *gnatoo*; and when one portion is thus printed to the size of the *cobechi*, the material being moved farther on, the next portion, either in length or breadth, becomes stamped, the pattern beginning close to where the other ended. Thus they go on printing and enlarging it to about six feet in breadth, and generally about forty or fifty yards in length. It is then carefully folded up and baked under ground, which causes the die to become somewhat darker, and more firmly fixed in the fibre; besides which, it deprives it of a peculiar smoky smell which belongs to the *coca*. When it has been thus exposed to heat for a few hours, it is spread out on a grass-plat, or on the sand of the sea-

3: Mariner F-5 (1806-1810) 1818
OU9 Tonga OU9

287 shore, and the finishing operation of *toogi hea*
531 commences, or staining it in certain places with
[386] the juice of the *hea*, which constitutes a brilliant red varnish; this is done in straight lines along those places where the edges of the printed portions join each other, and serves to conceal the little irregularities there; also in sundry other places, in the form of round spots about an inch and a quarter in diameter: after this the *gnatoo* is exposed one night to the dew, and the next day being dried in the sun, it is packed up in bales to be used when required. When *gnatoo* is not printed or stained, it is called *tapa*.

287 They make also an inferior kind of *gnatoo* of
[764] the bark of young bread-fruit trees, which, however, is coarse, and seldom worn, but is chiefly used for various purposes at funerals.

[462] The whole of these operations are performed
[565] by women: the embroidering of the *cobechis*,
[413] or stamps, is always done by women of rank.
[391] In respect to mat and basket-making, they have mats of various kinds, made of strips of
285 leaves or bark selected, dried, and otherwise
[462] prepared; all of which, except one or two of a coarser kind, are fabricated by women. The following are the names and qualities of them.

[291] *Gnafi gnafi*, mats to wear, of a finer quality, made of the leaves of the *fa* or *paoongo*, that

7: McKern A-4,5 (1920-1921) 1929 OU9 Tonga OU9

coast of the island, just north of the village of Ohonua, a fresh-water stream flows into the sea. Its high precipitous banks are composed of coral limestone and pitted at intervals with caves. Two of these caves have floor deposits of refuse very rich in ash and charcoal which proved well worth investigation.

1. Cave on the north side of the stream, close to its mouth. The natives who were consulted knew of no name for the cave, nor of any one who had lived there, cooked there, or used it for other purposes. The cave offered little room for any activity.

The orifice of the cave is but 4 feet high, about 10 feet wide, and decreases in size as it recedes horizontally into the cliff for a distance of 8 to 9 feet. However, it offers good shelter from the wind, sun, and rain, as the cliff above the orifice leans out protectingly, and on either side of the cave the cliff extends seaward for a short distance, leaving the site exposed in but one direction. The cave faces somewhat west of northwest. The north side of the cave floor consists of a rocky shelf. The south side is dominated by a perpendicular crevice, 3.9 feet in width at the mouth and gradually narrowing towards the back of the cave. This crevice, to a depth of 3.7 feet, was entirely filled with kitchen refuse, the deposit resting upon yellowish gravel of natural origin. Excavation of this deposit produced nothing indicative of European contact. Many marine shells, a few bones of fish and small land animals, and twenty-two small pieces of primitive pottery were found (p. 115). These were well scattered from top to bottom of the deposit, but were more numerous near the bottom; thus, thirteen of the sherds were found in the bottom 14 inches.

The smallness of the cave argues against its use as a dwelling place. On the other hand, just such caves are still in use in Eua as kitchens, or cooking places. The protection afforded against wind and rain favors such use. In all probability, this cave was a kitchen.

That no indications of contact with European culture were found in this deposit indicates a comparative plentitude of pottery preceding European contact.

2. Cave on the south side of the stream, nearly opposite Cave 1 and almost within the limits of the village of Ohonua. Cave 2 bears the name Anatuli (Cave-of-refuge). This comparatively large cave faces north, its floor being about 15 feet above stream level. From its orifice, 33 feet wide, the cave expands somewhat near its center and contracts again at the rear, and is 8 feet in height at the center of the arch. The floor has a maximum horizontal depth of 26 feet, its outer edge merging into a steep decline, or wash, which ends in a flat terrace 5 feet below. The more or less level surface of the floor is uniformly discolored from an abundance of fine charcoal, or soot. Old residents of Ohonua accounted for this discoloration by the fact that, within their memories, the cave had been extensively used as a place where *tuitui* nuts were burned for the purpose of obtaining soot for use as a color pigment.

8: Collocott & Havea M, I-5 (no date) 1922
OU9 Tonga OU9

skilled man who is idle and slack ("weak at working" in Tongan idiom). A rather less complimentary shade of meaning may be conveyed by this phrase, namely, it is the way of the unskilled (or foolish, the same word is used in both senses) to go ahead with all their might at a job although they may be all wrong.

125. Veuveuki ke lelei: Upsetting for good.

Veuveuki means to introduce confusion, to wrest things from their right order, to change instructions that have been given about a piece of work. This phrase indicates one who refuses to obey orders, makes a change in the instructions given, or otherwise disarrays a job, but does it in the knowledge that the prescribed method of procedure is not a good one. Such a man introduces confusion into the task, but it is a confusion that turns out well.

MANUFACTURES

CLOTH

[Cloth is made by ingeniously pasting together lengths of the beaten-out bark of the paper mulberry *(hiapo, Broussonetia papyrifera)*, on which a design is stained and picked out with black coloring matter.]

126. Hafuhafu koka: Dripping *koka*.

The *koka (Bischoffia* or *trifoliata javanica)* furnished a red dye for staining the native cloth. This dye is obtained by mixing the grated wood of the tree with water and squeezing through a mat. The imagery of the expression is taken from the drops of liquid falling down from the strainer, though when the mat has just been freshly filled the liquid runs down in a full stream. This expression, however, evidently refers to mere drops, more particularly perhaps the hard won drops when the mixture has been strained almost dry. It is applied to eking out a thing, trying to make it go round.

127. Hange ha fakatau kupeji: Like buying a printing-frame.

The printing-frames for the native cloth are highly valued, and when it comes to buying one there is apt to be a good deal of haggling. So this expression is applied to a transaction marked by confusion and cross purposes.

128. Hange ha fau tau koka: Like a strainer for expressing *koka*.

A coloring matter for staining the native cloth is obtained from the *koka* tree *(Bischoffia javanica)*. To obtain this pigment small pieces of bark are scraped from the tree, mixed with water, and then strained through a mat. This mat, which is long and narrow, is wrapped round the ground bark, and assumes the shape of a huge sausage. The ends are then tied

8: Collocott & Havea M,I-5 (no date) 1922
OU9 Tonga OU9

539 386 over the branch of a tree so that the mat forms a loop hanging down to a convenient height. A pole is put through the loop, and manned (or "womanned") by several people who turn the pole round, thus twisting the strainer up tight and expressing the pigment which runs into a receptacle placed to catch it. This mat in the course of twisting is subjected [461 626] to a great strain but is hard to break. The expression is used of a lazy person who, although he is the subject of many admonitions and rebukes, is yet very hard to shift.

539 287 426 **129. Maamaa a hiki papa:** Shifting the tapa board is light.

The *papa* is the long hollow board, or rather wooden structure, used in printing designs on the native cloth. It is fairly heavy and requires two or three people to lift it about. The idea of this expression is that one who wants to borrow one of these printing boards for cloth making in his own home finds no difficulty about securing the necessary help to lift it, but when it comes to returning it to its owners there are constant difficulties in the way.

539 286 735 **130. Nae li ki fe hoo geeji kahi?** Where did you throw your *kahi* shell?

The *kahi* shell (*Arca scapha*) is used as a scraper in the preparation of the native cloth. This phrase is a reply to one who goes to beg cloth from another. What did you do with the shells for making scrapers that you have not got a stock of cloth for yourself? The expression is not confined to those who beg cloth, but is extended generally to those who find themselves in want of a commodity which they might reasonably be expected to supply for themselves.

539 386 193 571 **131. Tai e oko atu:** The coloring matter will run on, that is, the coloring matter with which one part of the cloth is stained is that with which the adjoining part will also be colored.

This expression is used as a reproof and warning to those who jeer at the misfortunes which have come upon another. Just as the color on one section of the cloth is repeated on the next and each part in turn comes to be stained, so will he who today scoffs at the afflictions of another find himself in his turn involved in the like misfortunes. It is applied especially to the infirmities of old age. The strong man may laugh today at the weaknesses of age, but his own turn will come.

539 386 517 **132. Tuu tai:** Coloring standing, that is, a thing in which is the coloring matter used in staining the native cloth.

This phrase is not properly classed as a proverbial expression but is always written and felt as a single word, meaning beautiful, handsome, whether of physical feature or of conduct.

8: Collocott & Havea M, I-5 (no date) 1922
OU9 Tonga OU9

539 823 825 **322. Mamaha ae tahi he kuo tuunga kiu:** The tide is low for the plover (*Charadrius fulvus*) can stand.

There are a number of phrases for different stages of the outgoing and incoming tide. *Tuunga kiu*, standing for the plover, indicates the time when the sea has receded so far as to leave isolated rocks projecting here and there on the reef, thus affording standing places for the plover. Proverbially used of that which is nearly finished, of which signs of approaching completion are appearing here and there.

539 823 [103] **323. Nofo i lelenga:** Living at cliff; being at the top of the cliff.

Lelenga is the name given to a very high bare cliff in Eua, with a sheer drop into the sea. It is possibly, in this connection at all events, a proper name, but Baker gives it as a common noun meaning jeopardy. The expression *nofo i lelenga* has been explained as referring directly to the cliff in Eua, a fall from which would be certain death, and where, owing to the nature of the coast, the chances of recovering the body would be slight. Used generally of being in danger, uncertainty of life. Nowadays [829] frequently heard in Christian worship in reference to the uncertainties of life.

539 823 386 **324. Paepae kae auhia:** Mounded up but washed away.

Perhaps in the first instance refers to the leaves put in the sea to bleach in preparation for mat making. These leaves are anchored by stones put on them. If not this the obvious meaning is still that of something which is piled up but yet washed away by the currents. It is applied to that which one tries to do, to put through, to make fast, but cannot.

539 823 **325. Ta ki ao ta ki tua:** Having regard to front, having regard to back.

Ta ki liku ta ki ao: Having regard to weather side (of an island), having regard to lee side.

Ta ki liku ta ki fanga: Having regard to weather (rocky) side, having regard to beach.

Ta ki tahi ta ki uta: Having regard to sea, having regard to land.

[183] These expressions have the same meaning. In reference to persons they denote all-round excellence: used of place they mean everywhere.

NATURAL FEATURES OF LAND

326. Fuli ki vanu: Overturned into chasm.

Such a thing will not appear again: it is finished and done with. So of a thing that is finished, whose usefulness is quite over.

327. Ka kele a matavai e kele mo muivai: If the source is muddy the lower waters will also be muddy.

[183] [312] This has its obvious application to things spoiled throughout by corruption at the fountain-head. Although pure Tongan in form and ve-

8: Collocott & Havea M,I-5 (no date) 1922
OU9 Tonga OU9

539 826 **407. Lahilahi a ngavaivai:** A weak man is big, or the bigness of a weak man.

Big fleshy people have not the strength and endurance of those of lean wiry build. The companion phrase is *"Jiijii a pakiji,"* which indicates the tough endurance of the lean wiry man. (See No. 406.)

PHYSICAL DEFECTS

539 304 782 **408. Fafa he ho nima ku:** Stroke that with your stumpy hand.

Nima ku, that is a hand of which a finger has been mutilated by the amputation of a joint, is used familiarly for *nima*, hand. Before the introduction of Christianity such mutilation was extremely frequent, as finger joints were commonly sacrificed to the various gods. The expression is used by one who has done something that should prove gratifying to another; much as English speaking people say, "Well, what do you think of that?" The literal idea is that of fondling, caressing, with the hand, as though one should say "There's a deed, or a thing, of which you might well be fond."

409. Tonu a ulu-ku: Correctness of mutilated.

Refers directly to the customary mutilation of the hand by cutting off the top of the finger in sacrifice. A person with a hand thus disfigured might be very skillful in dances, many of which consist largely of motions of the hands, but the mutilation would to some extent mar the [183] charm. So generally of that which is done all right, but is spoiled by some defect.

539 827 **410. Kui lohiaki a:** A shortsighted man pretending to have good sight.

The shortsighted man may try to conceal his defect by pretending to see things that he is unable to distinguish clearly.

539 515 302 386 **411. Hange ha uku ha tula:** Like a bald man washing his head.

A bald man needs but a very thin mixture of lime or clay and water to cleanse his scanty locks. So a weak, watery decoction of *koka* (coloring matter for the native cloth), or of some other mixture, is compared to the head wash of a bald man.

MISCELLANEOUS

539 302 [137] **412. Aofanga tuku:** Head bound for hair burning.

The words used are chiefly. The place of a hair cut was taken in former times by a hair burn. In one method the lower part of the head was bound round with a green leaf of the *ii* (*Cordyline terminalis*) and then the hair singed off the top. This phrase means literally the leaf for the hair-burning, and is said to indicate that the leaf is ready adjusted for the process to begin. When the leaf is bound round there is no other preparation to make, everything is ready, and thence the expression has come to denote final, last.

A group of say, sixteen women will make anything up to three hundred fathoms of bark cloth in one day's work. The length prepared is divided among all the women who shared in the work. Each household tries to keep from one to three hundred fathoms of cloth always on hand. This supply should last the household from one to four years, depending upon the size of the household, the number of gift occasions in which it participates, and the incidence of *tapu* mourning-occasions.

The stencilling of prepared barkcloth is a laborious job. There are relatively few stencils to be found in Pangai today. In terms of money-value, a new stencil costs from three to five pounds to make, depending upon the intricacy of the required design. Stencils are often borrowed. With their return to the owner would go a gift of from twenty to fifty fathoms of bark cloth according to the acknowledged value of the stencil. Stencils newly made today show a wide variety of designs and motifs. Besides the more orthodox flower and geometrical designs, stencils may include motifs which range from imaginative conceptions of the Tongan flag to the names of the main streets in Nukualofa. Many women in Pangai today are not bothering with stencils. They are decorating their bark cloth with freehand finger-painted designs. The orthodox Tongan dyes for bark cloth give two colours only: black and a reddish-brown. Today some women find commercial dyes bought at the store less troublesome and more pleasing to use. To the European eye these store-colours are often garish and crude as compared with the softness of the native dyes.

MAT-MAKING

The mats made by the Pangai women range from rough floor mats to the finer sleeping mats and, finest of all, the mats which function as skirts *(vala)*[10] to be worn on occasions

[10] The *vala* which for shortness' sake we translate as "skirt" (though the word skirt is likely to call up quite the wrong semantic association), consists of a rectangular piece of bark cloth or cotton piece-goods or a fine mat. It is worn wrapped round the waist, hanging from waist to ankles or just above them. For ordinary wear men fasten the *vala* at the waist with a leather belt; for ceremonial wear, with a sennit belt. Men wear the *vala* for everyday use. Men and women alike wear the ceremonial mat-*vala* on all occasions when respect and humility require symbolization.

22: West M-3 (1846-1855) 1865 OU9 Tonga OU9

timber is obtained. The *toa*, or iron-wood tree, (*Casuarina equisetifolia*,) is somewhat abundant, but it is not much used by the natives, because of its excessive hardness and heaviness. Clubs and spears were made from it in former times. The large posts required for buildings are obtained from the *koka*, whose timber is very durable in the ground. It likewise affords the best firewood; and a dark liquid which exudes from its trunk, when the bark has been scraped off, is employed in stamping patterns upon the native cloth.

Some of the most stately and magnificent trees are only fit for firewood, and some not even for that. Among these may be reckoned the *orava*, a species of banyan; the *buko*, (belonging to the natural order of *Bombaceæ*,) and the *gatae*, (*Erythrina corallodendron*.) This latter tree is very commonly planted to distinguish the boundaries of land belonging to different proprietors.

Having considered, so far, the natural productions of the islands, as a whole, we shall now resume our personal narrative, by taking the reader to Vavau, where the first years of our residence were spent.

283 Tapa making, one of the traditional arts of Tonga, is widely practiced today. Step (1) involves stripping the paper mulberry tree (photo at top left: Milika Fatai, Kolomotu'a) to reach the inner bark. (2) Strips of the soft inner bark are then soaked and pounded to be stretched (photo at bottom left: Kilisitina Fihaki and Luseane Hafoka, 'Eua). The mellow tap-tap-tapping of mallets beating tapa is quite a common sound in villages. (3) Natural dyes are made of juice from the *koka, tongo* (mangrove), or *tuitui* (candlenut) tree. Below, ladies at Halamangaono in Vava'u twist a sleeve of *koka* bark shavings to extract the brownish dye, which drips into the bowl under it.

[986 824]

'Oku kei lahi 'aupito 'i Tonga 'a e koka'anga pea mo e ngaahi ngaue kehekehe fekau'aki mo ia. (1) Ko hono hae eni 'o e hiapo 'e Milika Fatai (ta 'i to'ohema ki 'olunga) mei Kolomotu'a. (2) Ko e tutu eni 'a Kilisitina Fihaki pea mo Luseane Hafoka (ta 'i to'ohema ki lalo) mei 'Eua. (3) Ko ha kau fine'eiki eni mei he kolo ko Halamangaono 'i Leimatu'a, Vava'u, 'oku fai 'enau taukoka (ta 'i lalo).

3

[p.23]

287 386 142 291 415

54: Cook G,T-5 (1777) 1967 OU9 Tonga OU9

bark just as they are cleaned and beat them out as thin as they will bear without any regard to form. The Mallet is of the same shape as that used at Otaheite, each side being three inches broad, one of which is smooth and the other three marked length ways with five or Six grooves, or furrows. I never saw a piece of cloth come from under the Mallet of more than two yards in length and a yard or a yard and a half wide, but more generally not a fourth part as big, to make larger pieces requires a different process. They have a large piece of wood made out of the trunk of [a] tree split in two, one side is made round and smooth and the other hollowed out; the round side is fifteen or eighteen inches over and the length of the log is equal to the broadest cloth the family it belongs to makes. On the round side of this log they fix platens, or patterns which are made of the leaves of the Wharra tree plated one into another, and stitched, or worked over with the fibres of Cocoanut husks by which the pattern is formed so as to give an impression. Over these they spread very smooth the cloth, and bring it to the breadth they intend it by pasting one piece to another with a fruit which they call , it is used when green, is something larger than a current berry and is an excellent gluten.[1] The work women hold a bunch of them between her teeth from which she plucks one when wanted. Over this first cloth is pasted a second and some times a third if the cloth is intended to be thick, the last is a[l]ways the best. After all the hôles, if any, are repaired by pasting on patches, the whole is gently rubed over with a sort of varnish, or oily substance, which is expressed from the bark of a tree called by them .[2] At the same time this is laying on they press the Cloth with the hand so that it receives the impression of the pattern. The varnish presently dries and is of a light brown Colour, if they want it darker, they mix with it, more or less, of the soot that is produced by burning an oily nut the same as serves for Candles at Otaheite.[3] The first length being finished they remove it of the block and begin with another, thus they continue pasting one piece to another and working one length after another

[1] 'The viscous juice of a berry called 'Toōō', says Anderson, with the note, 'This is the Cordia'. Tou in Tahiti and other islands is *Cordia subcordata*; but in Tonga, according to Churchward's dictionary, is *Melochia odorata* (the student who wishes to confuse himself may consult also Yuncker's *Plants of Tonga*). Churchward has a second definition, in which the parboiled fruit of *Melochia*, dipped in water, was formerly used as *tou* for pasting tapa—*tou* thus apparently being the paste. But Anderson and Cook must have seen the process.

[2] '. . . a juice extract'd from a tree call'd Kokka'—King. '. . . the soft bark of the *esca* tree and the *toei-toei* tree, either of which when wrung out, without water, yields a reddish brown juice, to be used as a die.'—Mariner, II, p. 204. Coca = Koka, *Bischofia javanica*; *toei-toei* = Tuitui, or candle-nut, *Aleurites moluccana* (the Tahitian *tutui*).

[3] That is, the candle-nut, from the bark of the tree of which came the original lighter brown.

55: Anderson D,T-5 (1777) 1967 OU9 Tonga OU9

a muscle shell. It is then roll'd up to take of the convexity which it had round the plant, tied and macerated in water for some time (they say a night), after which it is laid across the trunk of a small tree squar'd, and beaten with a square wooden instrument about a foot long, full of coarse grooves on all sides but sometimes with one plain. According to the size of the bark a piece is soon produc'd but the operation is often repeated by another hand, or it is folded several times and beat longer by the same, which seems rather to close than divide its texture. When it is sufficiently done it is spread out to dry, the pieces being from four or five feet to six or more in length and half as broad. They are then given to another person who joins the pieces by smearing part of them over with the viscous juice of a Berry call'd 'Tooo,[a] which serves as a glue, till they become of a considerable size and are then laid over a large piece of wood with a kind of stamp made of a fibrous substance pretty closely interwoven under it. They then take a bit of cloth and dip it in a juice which stands close by in a cocoa nut shell, express'd from the bark of a tree with the outer rind scrap'd off call'd Kokka,[1] and rub it briskly upon the cloth, which at once leaves a dull brown colour and a gloss for glazing & dryness upon its surface, the stamp at the same time making a slight impression that answers no other purpose which I could see than perhaps to make the several pieces that are glued together stick a little more firmly. In this manner they proceed joining and staining by degrees till they produce a piece of such length and breadth as they want, generally leaving a border of a foot broad at the sides and longer at the ends unstaind. Through the whole, if any part of the original pieces are too thin or have holes, which is often the case, they glue spare bits upon them till it is of an equal thickness; and when they want to produce a black colour they mix the soot procur'd from an oily nut calld Dooe'dooe[2] with the juice of the Kokka in different quantitys as they want the tinge. They say that the black sort, which is commonly most glaz'd, makes a cold dress but the other a warm, and to obtain strength in both they are always carefull to join the small pieces length-ways which makes it impossible to tear the cloth in any direction but one.

As we wanted much to know if there was any good water about the bay our guides said they would conduct us to such a place and carried us to two different spots from whence the tide had fallen some way,

[a] This is the Cordia. [The Tahitian Tou is *Cordia subcordata*, but the Tongan tree of which the berries were used for this purpose was *Melochia aristata* or *M. odorata*. Cf. Cook, p. 172, n. 1 above.]

[1] Koka, *Bixhofia javanica*.

[2] Tuitui, *Aleurites moluccana*.

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Genus Curcuma Linnaeus

137 **Curcuma longa** Linnaeus. Sp. Pl., 2, 1753.

Erect, leafy, herbaceous plant with aromatic, fleshy rootstock. Leaves elliptic-oblong, distichous, acuminate, finely pinnately nerved, petiole about as long as blade, sheathing at base. Flowers several, yellowish, in axils of greenish bracts forming a dense, cone-like or cylindric head at end of leafless peduncle.

Tongatapu: in swampy area below Nualei village, Mar. 9, 1953, *Yuncker 15248.*

'Eua: in deep forest on ridge above sea-facing terraces above Lokupo, Mar. 27, 1953. *Yuncker 15537.*

Vava'u: *Crosby.*

Occasional throughout Tonga. An Indian species now widely disseminated in warm countries.

Tongan name: *ango.*

[386] [257] [278] [824] The rootstock provides a yellow dye and the leaves are used to wrap fish and in the preparation of medicines.

Family CANNACEAE

Genus Canna Linnaeus

Canna indica Linnaeus, Sp. Pl., 1, 1753.

Smooth, erect, rhizomatous herb, up to about 1.5 m. tall. Leaves oblong-ovate or lanceolate, entire, acute to acuminate, with long, basal, petiolar part sheathing stem, blade up to 50 cm. or more long and 20-25 cm. wide, pinnately nerved, lateral nerves slender and numerous. Flowers irregular, medium to large, showy, red or yellow, in terminal racemose or paniculate clusters; fruit a warty, bristly capsule, seeds globose, hard, black.

Tongatapu: forming large patches in low moist areas near Vaini, Feb. 26, 1953, *Yuncker 15060.*

'Eua: in low moist area between Pangai village and Fuai, Mar. 25, 1953, *Yuncker 15472.*

Vava'u: *Crosby;* in waste areas near northwestern coastal cliff, May 25, 1953, *Yuncker 16159.*

[247] [824] Common in low moist areas throughout Tonga. A tropical American plant now of pantropic distribution. A number of horticultural forms are grown for ornament.

Tongan name: *misimisi.*

Family MARANTACEAE

Genus Maranta Linnaeus

Maranta arundinacea Linnaeus, Sp. Pl., 2, 1753.

Erect, slender, glabrous, somewhat dichotomously branched herb, up to about 1 m. tall, rootstock fleshy. Leaves rather thin, ovate-oblong, acuminate, base rounded, blade

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Tongatapu: weed in waste area along road near Navutoka village, Feb. 27, 1953, *Yuncker 15093.* 137

'Eua: *Lister.*

Nomuka: in lakeside clearing along road encircling island between sea and central lake, Apr. 30, 1953, *Yuncker 15845.*

A weedy plant of waste areas, probably on all of the islands. An American species of pantropic distribution.

Tongan name: *polo,* presumably because of the superficial resemblance of the fruit to the fruit of species of *Solanum* which are also known as *polo.*

The red juice of the fruit is used as a dye. [386] [824]

Family Aizoaceae

Genus **Sesuvium** Linnaeus

Sesuvium portulacastrum (Linnaeus) Linnaeus, Syst., ed. 10, 1058, 1759.

Succulent herb with prostrate, spreading stems up to 60 cm. or more long. Leaves narrowly spatulate, narrowed downward to short, clasping petiole. Flowers axillary, white to rose or pale lavender, solitary, on pedicels up to 1 cm. or more long; capsular fruit ovoid, seeds few, black.

Tongatapu: *Forster;* on tidal flat, Sopu, near Nuku'alofa, Feb. 25, 1953, *Yuncker 15041;* in limestone rock crevices near Blow Hole area, vicinity of Houma village, June 1, 1953, *Yuncker 16226;* on bare coral rocks on coastal terrace near Houma, Oct. 28, 1951, *Hürlimann 17.*

'Eua: *Lister;* on thin soil over coral rocks near shore, Lokupo, Mar. 27, 1953, *Yuncker 15518.*

Nomuka: on limestone rocks near sea, Apr. 30, 1953, *Yuncker 15854.*

Tafahi: near Hou, on lava rocks along shore, Dec. 17, 1951, *Hürlimann 592.*

A common strand plant throughout Tonga. Pantropic.

Tongan name: *kihikihimaka.*

Genus **Tetragonia** Linnaeus

Tetragonia expansa Murray, Comment. Soc. Reg. Sci. Gotting. Cl. Phys. 6: 13, 1783.

Somewhat succulent, assurgent herb with stems up to 1 m. or more long. Leaves alternate, smooth, ovate, acute, the base decurrent on the petiole, entire, up to 12 cm. long. Flowers small, yellow green, solitary, on short, axillary pedicels; fruit up to 1 cm. long, with four or five apical horns.

Tongatapu: July 19, 1926, *Setchell and Parks 15564.*

'Eua: *Lister.*

Infrequent. Australasia.

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Vava'u: *Crosby.*

Niuafo'ou: thicket just above upper margin of recent lava flow, May 16, 1953, *Yuncker 15989.* 137

Frequent throughout Tonga. New Hebrides eastward to [?] Samoa.

Phyllanthus ramiflorus Muell. Arg. in Hemsley's list and *P. ramiflorus* var. *genuinus* Muell. Arg. in Burkill's list.

Tongan names: *malolo, misikoka.*

The leaves and bark are used in preparing medicines. 1/A [278] [824] [113]

For a discussion of the taxonomic status and distribution of *G. concolor* and *G. ramiflorum* see Croizat (Sargentia 1: 47, 1942).

Genus **Bischofia** Blume

Bischofia javanica Blume, Bijdr. Fl. Java, 1168. 1826.

Tree, up to 10 m. or more tall, branchlets and leaves glabrous. Leaves alternate, three-foliate, leaflets ovate-elliptic, acuminate, base acute, up to 15 cm. long and 8 cm. wide, crenate-dentate, terminal leaflet long-stalked, lateral leaflets on petiolules 1-1.5 cm. long. Flowers small, dioecious, numerous, in axillary, panicled racemose clusters; fruit globose, fleshy, up to about 1 cm. in diameter.

Tongatapu: *Moseley;* thicket near Hufangalupe, Feb. 26, 1953, *Yuncker 15042;* near dwellings, Ma'ofanga, Nov. 23, 1951, *Hürlimann 313;* near Nualei, Dec. 26, 1951, *Hürlimann 677.*

'Eua: in forested area near center of island, Mar. 18, 1953, *Yuncker 15313;* in forest along creek above Fuai, alt. 90 m., Nov. 8, 1951, *Hürlimann 164.*

Nomuka: thicket near shore of lake, along road encircling island, Apr. 30, 1953, *Yuncker 15856.*

Lifuka: in thicket between road and beach, north of Pangai village, Apr. 25, 1953, *Yuncker 15715.*

Vava'u: *Crosby;* in thicket along road between Houma village and sea, May 22, 1953, *Yuncker 16122.*

Common throughout Tonga. India, China, and Malaysia to Polynesia.

[?] Including *B. leptopoda* Muell. Arg. *sensu* Hemsley's list.

Tongan name: *koka.*

The bark furnishes a dye used in coloring tapa; the stems are used for posts and so forth. [386] [313] [417] [824]

Genus **Claoxylon** Jussieu

Claoxylon parvicoccum Croizat, Sargentia 1: 49, 1942.

Tree up to 8 m. or more tall, the branchlets and leaves glabrous. Leaves alternate, elliptic-ovate, acuminate, the base acute to long-cuneate, 12-15 cm. or more long and 5-8 cm. wide, sharply crenately toothed, pinnately nerved, the petiole up to 8 cm. or more long. Flowers unisexual, in slender, spicate clusters.

1/A /Glochidion ramiflorum -- Analyst/

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Vava'u: *Crosby:* in thicket along road near sea below the village of Houma, May 22, 1953, *Yuncker 16135.* 137

Frequent throughout Tonga. Southern Asia and Malaysia to Polynesia.

Tongan name: *tuitui.*

An extract of the bark is used for dyeing. and oil obtained from the fruit is used in a number of ways. [386] [824]

Genus Jatropha Linnaeus

Jatropha curcas Linnaeus, Sp. Pl., 1006, 1753.

Glabrous shrub or small tree up to 5 or 6 m. tall. Leaves alternate, round-ovate, three- or five-lobed, lobes acuminate, base cordate with broad sinus, palmately seven-nerved, midrib and lateral nerves strongly branched upward, 15 cm. or more long and as wide, petiole commonly longer than blade. Flowers greenish-white, 6-8 mm. wide, in axillary, pedunculate, cymose clusters; capsule up to 3 cm. long.

Tongatapu: in thicket near village of Niutoua, Mar. 2, 1953, *Yuncker 15116.*

'Eua: in thicket near Ohonua, Apr. 2, 1953, *Yuncker 15637.*

Lifuka: along road about midisland between Pangai village and eastern side of island, Apr. 27, 1953, *Yuncker 15774.*

Vava'u: *Crosby.*

Frequent throughout Tonga. A tropical American species now of pantropic distribution.

Tongan name: *fiki.*

Often grows in rows about plantations, along roads, and other places where it is used as living fence posts. An extract of the leaves is used in preparing medicines. [824] [245] [278]

Jatropha multifida Linnaeus, Sp. Pl., 1006, 1753.

Shrubs or small tree up to about 6 m. tall. Leaves nearly round in outline but deeply divided into seven to 11 lobes, the lobes entire or incised, glabrous. Flowers bright red, in compound, cymose clusters.,

Tongatapu: *Setchell and Parks 15548.*

Occasional in villages. A native of tropical America, now widely planted as an ornamental.

Tongan name: *fiki papalangi.*

Genus Manihot Tournefort

Manihot esculenta Crantz, Inst. Rei Herb. 1: 167, 1766.

Glabrous, half-woody, shrubby plant, up to about 2 m. tall. Leaves alternate, paler beneath, deeply palmately parted into three to seven lanceolate, entire, acuminate divisions, up to 20 cm. or more long and about as wide. Flowers monoecious, about 2 cm. wide, yellowish-green or reddish, in few-flowered, axillary, paniculate clusters, often not developing; fruit subglobose, about 1.5 cm. in diameter, ridged.

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irregularly toothed, up to 8 cm. or more long and as wide, stellate-pubescent, petioles up to 5 cm. or more long. Flowers on short axillary pedicels, corolla white to pink; fruit about 1 cm. wide, the five segments covered with barbed spines, burlike. 137

Tongatapu: *U.S. Expl. Exped.;* along forest trail near Niutoua village, Mar. 2, 1953, *Yuncker 15136.*

'Eua: in clearing near center of island, Mar. 24, 1953, *Yuncker 15434.*

Vava'u: *Harvey; Crosby.*

Frequent as a roadside and waste-area weed. An Indo-Malaysian species now pantropic.

Hemsley lists *U. morifolia* DC. for Tonga on the authority of de Candolle and cites no collections. This is now considered to be a synonym of *U. sinuata* Linnaeus which is now treated as a synonym of *U. lobata.*

Tongan name: *mo'osipo.*

The leaves are used in medicines. [824] [278]

Genus Hibiscus Linnaeus

Hibiscus abelmoschus Linnaeus, Sp. Pl., 693, 1753.

Hirsute, subwoody plant, up to about 1 m. tall. Leaves alternate, broadly ovate in outline, up to 12 cm. long and about as wide, base cordate, palmately three- to five-lobed, lobes acute to acuminate, toothed, petioles about as long as the blade. Flowers 5 cm. or more wide, solitary, on axillary pedicels up to 5 cm. or more long, corolla yellow with an orange or red center; capsule oblong, pointed, 5 cm. or more long, hirsute, splitting into five sections.

'Eua: *Lister;* scattered plants in undergrowth of old coconut plantation near Ha'aluma, Apr. 1, 1953, *Yuncker 15585.*

Vava'u: *Barclay; Crosby;* in wet, marshy edge of Ngofe swamp, on southwestern side of island. May 20, 1953, *Yuncker 16030.*

Occasional in waste areas. India to Malaya and Polynesia.

Tongan names: *loa, fau'ingo.*

The seeds furnish a dye used in decorating tapas, and various parts of the plant are used in preparing medicines. [824] [386] [278]

Hibiscus rosa-sinensis Linnaeus, Sp. Pl., 694, 1753.

Shrub up to 3 m. or more tall. Leaves simple, alternate, ovate, acute, base obtuse or subacute, up to 15 cm. or more long and 12 cm. wide, dentate, palmately five-nerved, petiole up to about 5 cm. long. Flowers up to 12 or 15 cm. wide, on slender, elongate axillary pedicels near ends of branches, various shades of red.

Cultivated about villages as an ornamental. Occasionally adventive. An Asiatic species now cultivated in warm countries throughout the world. [245] [824]

Hibiscus schizopetalus (Masters) Hooker f., Curtis's Bot. Mag. III, **36**: pl. 6524, 1880.

Glabrous shrub up to about 3 m. or more tall. Leaves alternate, ovate-elliptical, acute, dentate. Flowers solitary, pendulous on long pedicels at ends of slender, drooping branches, petals much dissected, reflexed, coral red.

1 /Urena lobata -- Analyst/

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Lifuka: in thicket near sea, north of Pangai village, Apr. 25, 1953, *Yuncker 15753;* on low cliff along eastern side of island, Apr. 21, 1953, *Yuncker 15771.* 137

Vava'u: *Crosby;* in seaside forest below Houma village, May 22, 1953, *Yuncker 16137.*

Tafahi: in forest between township of Tafahi and landing place, Tafe, Dec. 13, 1951, *Hürlimann 504.*

Frequent near shore throughout Tonga. A southern Asiatic species extending to the Philippines and Polynesia.

B. butonica Forst. in Hemsley's list and *B. speciosa* L. f. in Burkill's list.

Tongan name: *futu.*

The timber[1] is used for house construction, banana shooks, and so forth; the trunks, for dugout canoes; and the bark, as a fish poison. [824] [313] [342] [396] [226]

Family Rhizophoraceae

Genus **Rhizophora** Linnaeus

Rhizophora mangle Linnaeus, Sp. Pl., 443, 1753.

Round-topped, much-branched tree, sometimes up to 10 m. tall, bearing many, pendent, aerial roots which form an impenetrable entanglement. Leaves opposite, elliptic or obovate-elliptic, apex blunt and often slightly notched, base acute and decurrent on petiole, up to 10-12 cm. long and 6-7 cm. wide, somewhat leathery, pinnately nerved, midrib stout, lateral nerves slender. Flowers few, four-parted, about 2 cm. wide, yellow, in simple, axillary, cymose clusters, seed usually germinating while on tree, producing a radicle up to 30 cm. long.

Tongatapu: forming a grove on the tidal flat at Sopu, west of Nuku'alofa, Feb. 25, 1953, *Yuncker 15023;* May 30, 1953, *Yuncker 16206.*

Nomuka: along shore of large central lake, Apr. 30, 1953, *Yuncker 15847.*

Vava'u: along shore below Houma village, May 22, 1953, *Yuncker 16130;* along shore of lagoon, Vaihoi, near Leimatua village, May 26, 1953, *Yuncker 16185.*

Occasional throughout Tonga. Tropical America and westward to Fiji, Samoa, and Tonga, where it seems to meet but remain distinct from the following species.

Tongan name: *tongolei.*

The timber is durable and used in a variety of ways; the roots are used in house construction; the sap, for dyeing. [824] [313] [342] [386]

Rhizophora mucronata Lamarck, Encycl. Méth. 6: 189, 1804.

This species closely resembles the preceding, differing chiefly in having sharply pointed leaves.

Vava'u: *Harvey; Crosby.*

Infrequent. A species of the Old World tropics extending into Polynesia.

1 /Barringtonia asiatica -- Analyst/

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Genus Bruguiera Lamarck

137 **Bruguiera conjugata** (Linnaeus) Merrill, Philippine Jour. Sci. 9C: 118, 1914.

Small tree similar in habit to *Rhizophora*, up to 4 m. or more tall. Leaves alternate, elliptic, acuminate, base decurrent along petiole, up to 12 cm. or more long and 4-5 cm. wide, coriaceous, somewhat glossy, finely pinnately nerved, petiole up to 4 cm. or more long. Flowers greenish yellow, solitary, axillary, about 3 cm. long, calyx lobes very narrowly lanceolate, acute, usually 10, up to 1.5 cm. long; fruit included in calyx tube, seed germinating on tree and forming an elongated radicle.

Nomuka: along shore of central lake, Apr. 30, 1953, *Yuncker 15828*.

Vava'u: *Crosby*.

Occasional near shore but less frequent than *Rhizophora*. From tropical Asia through Malaya to Polynesia.

B. rheedii Blume in Hemsley's list and *B. gymnorhiza* Lam. in Burkill's list.

Tongan names: *tongo, tongo ta'ane*.

824 313 386 The hard and durable wood is used in many ways, and an extract of the flowers furnishes a dye.

Family Combretaceae

Genus Terminalia Linnaeus

Terminalia catappa Linnaeus, Mantissa 1: 128, 1767.

Medium to large tree with whorled, horizontal branches. Leaves clustered toward ends of branches, obovate, obtuse or abruptly acute, base narrowing, narrowly and abruptly obtuse at petiole, entire, up to 25 cm. or more long and 15 cm. wide, pinnately nerved, petioles short and stout. Flowers small, greenish white, in axillary, spikelike clusters near ends of branches; fruit oval, flattened, two-edged, greenish to red, up to about 5 cm. long, flesh thin and edible.

Tongatapu: *U.S. Expl. Exped.*; in open forest near Nualei, Mar. 9, 1953, *Yuncker 15246*; in seaside thicket below Ha'akame village, Mar. 12, 1953, *Yuncker 15286*.

'Eua: in seaward forest on terrace above Houma village, Mar. 26, 1953, *Yuncker 15506*.

Lifuka: roadside near north end of island, Apr. 25, 1953, *Yuncker 15752*.

Tafahi: shore, northeast coast north of Fakafafa moe Tauloto, Dec. 17, 1951, *Hürlimann 601*.

Niuatoputapu: forest on plain southeast of Falehau, alt. 5 m., Dec. 7, 1951, *Hürlimann 385*.

Frequent throughout Tonga, commonly near the shore. From tropical Asia eastward to Polynesia; naturalized in America.

Tongan name: *telie*.

824 313 396 278 262 The timber is used for construction purposes, canoes, banana shooks, and so forth; the leaves, for medicine; and the fruit, as food.

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Genus **Memecylon** Linnaeus

Memecylon harveyi Seemann, Fl. Vit., 85, 1865.

Small, glabrous tree, up to 6 m. or more tall. Leaves somewhat coriaceous, opposite, elliptic, acuminate, base acute, up to 10 cm. or more long and 4 cm. wide, entire, pinnately nerved, lateral nerves very slender, petiole scarcely 1 cm. long. Flowers four-parted, axillary; fruit globose, one-seeded, about 1 cm. in diameter, crowned by calyx.

'Eua: *Lister;* in forest near center of island, Apr. 5, 1953, *Yuncker 15649;* Mar. 20, 1953, *Yuncker 15380.*

Vava'u: *Crosby; Harvey;* in forest on upper rim of limestone coastal cliff on northwestern side of island, May 25, 1953, *Yuncker 16173.*

Occasional. Endemic.

Tongan names: *vitahi, malamala'a toa.*

Family ONAGRACEAE

Genus **Jussiaea** Linnaeus

Jussiaea erecta Linnaeus, Sp. Pl., 388, 1753.

Erect, branched herb, stem green to reddish, longitudinally ridged, ciliate. Leaves alternate, linear-lanceolate, acute at both ends, up to 7 cm. long and 1 cm. wide, pinnately nerved, subsessile or on short petioles. Flower buds four-angled, peduncle about 1.5 cm. long, calyx tube about 2 cm. long, four-lobed, corolla yellow, petals four, spreading; capsule cylindrical, longitudinally ridged, ascending.

Tongatapu: moist area along road near Navutoka village, Feb. 27, 1953, *Yuncker 15070.*

'Eua: in marshy margin of waterhole on upper grazing plain near center of island, Mar. 24, 1953, *Yuncker 15447.*

Occasional in moist areas. India, southern China, Borneo, Philippines, and Polynesia.

Tongan name: *loa ano.*

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The plant produces a dye used to color pandanus leaves for weaving.

Family ARALIACEAE

Genus **Mertya** Forster

Mertya macrophylla (Richard) Seemann, Bonplandia 10: 294, 1862.

Rather small, slender tree, up to 5-7 m. tall. Leaves alternate, simple, clustered toward ends of branches, elliptic-oblanceolate, acute at both ends, up to 50 cm. or more long and 12-15 cm. wide, pinnately nerved, petioles stout, 5-8 cm. long. Flowers dioecious, greenish, in capitate clusters, in large, branching, terminal inflorescences.

Tongatapu: *U.S. Expl. Exped.*

'Eua: *Lister;* in thicket on limestone outcrop on sea-facing cliff near summit of eastern ridge, above Fuai, Apr. 8, 1953, *Yuncker 15688.*

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cm. wide, petioles 1-2 cm. long, narrowly ridged by decurrent blade margins, stipules connate. Flowers white, in a globose, fleshy, headlike, pedunculate, axillary cluster; fruit globose-ovoid, about the size of an egg, fleshy and yellowish white when mature. 137

Tongatapu: *Forster;* in thicket near Vaini village, Feb. 26, 1953, *Yuncker 15037, 15038.*

'Eua: *Lister;* in open forest near center of island, Mar. 19, 1953, *Yuncker 15367.*

Lifuka: clearing near east side of island, along cross-island road between Pangai and eastern coast, Apr. 27, 1953, *Yuncker 15756.*

Vava'u: *Crosby;* along trail to summit of Talau, west of Neiafu, May 23, 1953. *Yuncker 16146.*

Common in thickets at lower altitudes throughout Tonga. From India through Malaya to Polynesia.

Tongan name: *nonu.*

The roots furnish a dye; the leaves are used as a remedy for boils; and various parts of the plant are used in medicines. [824] [386] [757] [278]

Morinda umbellata Linnaeus var. **forsteri** (Seemann) Fosberg, in Smith, Sargentia: 1: 123, 1942.

Stout, woody vine. Leaves opposite, elliptic, acute to acuminate, base acute, up to 8 cm. or more long and 4 cm. wide, somewhat coriaceous, pinnately nerved, lateral nerves submarginally loop-connected, petiole 1-1.5 cm. long, narrowly laterally ridged by the decurrent blade margins. Flowers white, in a fleshy, pedunculate, axillary, globose, headlike cluster; fruit globose-ovoid, less than 1 cm. in diameter.

Tongatapu: *Home.*

'Eua: *Lister;* in thicket along trail to summit of eastern ridge, Mar. 30, 1953, *Yuncker 15553.*

Kao: climbing in open forest on steep rocky slope, May 6, 1953, *Yuncker 15894, 15895.*

Vava'u: *Crosby.*

Occasional in forested area. New Hebrides, Fiji, Polynesia.

Genus Borreria G. F. W. Meyer

Borreria laevis (Lamarck) Grisebach, K. Ges. Wiss. Goet., Abh. 7: 231, 1857.

Low, branching, ascending plant, slightly woody at the base. Leaves opposite, elliptic-lanceolate, sharply acuminate, base cuneate, mostly 2-4 cm. long and 5 mm. wide, pinnately nerved, nerves prominent, subsessile, stipules connate, with filamentous processes. Flowers small, white, in verticillate, axillary clusters.

Tongatapu: frequent in calcareous soil near sea, Sopu, west of Nuku'alofa, Feb. 25, 1953, *Yuncker 15007.*

'Eua: in pastured area near center of island, Mar. 22, 1953, *Yuncker 15428.*

Rather frequent as a weed in waste areas and clearings throughout Tonga. A tropical American species now widespread in tropical countries.

1 /Morinda citrifolia -- Analyst/
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were throwing a stone. The end of the *fau* bark held in the hand is released and the arrow shoots off to a great distance.

A bow and arrow game, *gahau*, is played with a very slender, supple *kaho* stick. The bow is made from a stout orange stick.

For the boys' game of *maka ta*, an implement very much like the modern slingshot is used. The bark of tapa or *fau* is used for the sling and a small pebble for ammunition. The sling is swung around the head full force, and the pebble thereby released and shot out into the air.

A Tongan dance (*lakalaka*) may be performed by any number of people of both sexes. The leader (*bunake*), composes the dance, teaches it, and leads the dancers. He chooses leaders (*vahegas*) for both the men's and women's parts, who must be of chiefly rank, as no one considers the *lakalaka* worth watching unless the *vahega* belongs to the family of a chief. The words and music (*hiva usu*) for the *lakalaka* have been handed down from early times.

The *fahaiula* is a dance participated in by women only. The dancing is done to the sound of drums, with groups of girls sitting around singing and clapping hands to keep time for the dancers.

A game for small children (*aamoa*) is played by ten or more little girls and an old woman. The old woman covers herself with a piece of *gatu* or tapa cloth and tries to frighten the children, who run to escape her.

The game *fisi* is for both sexes. A rolled mat (*tapakau*) is placed on end with a stick on either side to support it; the children have small dried pieces of dried *fau* wood which they try to send over the top of the mat with one sharp clip of the finger.

CLOTHING OF WOMEN

The material used in most of the clothing worn by Tongan women in the early days was made from *feta'aki* (white tapa cloth before it had been dyed or printed). The leaves of certain trees were also used, coconut fiber serving as thread for sewing them together.

Funeral garments were made from leaves blackened by several days' exposure to the sun. These leaves were sewed together with a needle made from the small rib of the coconut leaf, the bark of the *fau* tree serving as thread.

A more modern method of dyeing the tapa cloth for funerals is as follows: The natives gather a great pile of candle nuts (*tutui*),

77: Whitcombe Y-3 (no date) 1930 OU9 Tonga OU9

remove them from the shells and set them alight. The flesh of several coconuts is added to the fire and an empty kerosene can with the lid removed is hung over the flames. Black soot collects in the can, and is later scraped out and mixed with the scraped bark of the *koka* tree to make a jet-black dye. 287 386

The garments made for weddings were in two parts; the blouse or upper covering being of *feta'aki*, and the loin cloth or lower robe of *gafigafi*. At both weddings and funerals a mat (*kie*) was made from *gafigafi* leaves which had been boiled and bleached in the sun. The *gafigafi* tree is now extinct in Tonga, and has been replaced by the *fa* tree. 292 585

For dances and native festivals, a dress was made by sewing together the leaves of the *kulutumu* tree and the *limu fonua*, the latter a kind of creeping moss. Both these plants are now rare in Tongatabu, but are found in abundance on the island of Eua. 292 294

NAMING THE CAPITAL OF TONGA

The capital of Tonga was known originally as Kolofoou, later changed to Nukualofa by the wish of King George Tubou I and his high chiefs. The name was probably taken from that of a rock which stands on the shore at Nukunuku, directly opposite the island of Feleave. The correct name of the rock is said to be Nuualofa, (The Land of Love). It is thought that Captain Cook used this idea in naming the whole group "The Friendly Islands," or "The Islands of Love" (Otu Aga Ofa). 103

TRANSFER OF PROPERTY

(A NATIVE ACCOUNT)

A man appointed to the rank of Muliki Haamea lived on a property at Mua, just by the property Tatakamotoga and Tugis property, Vatulova. As this chief Muliki Haamea was being escorted to Hihifo to be declared Tui Haamea, he was waylaid and murdered by the chiefs of the Hihifo district, on the beach road just opposite the village of Nukunuku, and his body was taken and left on the big rock called Nukualofa. His murderers then went to Hihifo and a man named Togalava heard of what had taken place; he was living at a village called Hauteiho and he begged another young man to go with him to see if there was any truth in this story that he had just heard 173 425

78: Weiner N-4,5 (1969) 1972
OU9 Tonga OU9

278 171 In Tahiti, the leaves are used for treating toothache and neuralgia (19), and in Niue, they are reportedly esteemed in treating tuberculosis (31). Hunt (12) reports that the plant is employed in Samoa.

278 757 In Tonga, boiling water is poured over the leaves into a basin and the steam inhaled as a cure for fever and headache. The bark is boiled and is an ingredient in a general tonic.

278 137 ## ZINGIBERACEAE
(Ginger Family)

CURCUMA LONGA L.

ango

The turmeric plant, distributed widely in warm countries, is occasional throughout Tonga.

278 171 A decoction of the rhizome is used in treating conjunctivitis (8) and a mixture of the rhizomes with coconut oil is prepared as a vulnerary (21) in the Philippines. The rhizomes are official in numerous pharmacopoeias.

278 844 A solution of the rhizome was formerly painted on the mother's body prior to parturition as an antiseptic. This practice is no longer common in Tonga. *Ango* is presently 386 found in "brick" form. These bricks are prepared by first removing the outer layer of the rhizome and then pounding the latter and adding water. The fine dye grains are separated from the rough starch grains and the dye grains dried in the sun until they have a "creamy" consistency. This mass is then placed in a bamboo tube and baked in a Tongan earth oven until dry. The circular bricks are removed as needed.

278 137 ### ZINGIBER ZERUMBET (L.) J. E. Smith

angoango

Wild ginger, widely distributed in warm countries, is frequent in Tonga.

278 171 In the Philippines, the pulverized rhizome is used as an antidiarrheic (8). Stopp (27) reports that in New Guinea juice derived from the rhizome is employed for treating burns or cuts and that small pieces of the rhizome in combination with "other plants" are valued to relieve toothache.

278 Yuncker (32) states that in Tonga the rhizome has medicinal uses.

[p.447-A]

249

Turmeric - ango (Curcuma longa). Turmeric, supposedly of Indian origin and probably Pre-European introduction (Yuncker, 1959: 86) is cultivated and found growing naturally throughout Tongatapu. The rhizome is used in making a yellow dye (enga) and in the preparation of medicines.

[386] [278]

Arrowroot - misimisi koka'anga (Maranta arundinacea). The common arrowroot, a native of tropical America and the West Indies, was probably an early European introduction (Herklots, 1972: 356). It is found only occasionally in a cultivated state on town allotments and is used as a substitute for Tacca leontopetaloides and Manihot esculenta in the preparation of paste for tapa making.

[287]

249 242

Hyacinth bean - piini Tonga (Dolichos lablab). Native to the Old World Tropics and probably introduced (Stone 1970: 333; Parham, 1972: 112), the hyacinth bean is found occasionally on bush allotments planted on fallow land to restore soil fertility. The use of it in this capacity is encouraged by the Agricultural Department. In times of food shortage, the seeds are also eaten.

[262]

249

Kava'aukava or kava Fisi (Derris elliptica). Native to Indomalaysia and possibly a recent introduction from Fiji, kava Fisi is occasionally found in both a planted and a natural state on bush and town allotments. The roots are used to stupify fish (Parham 1972: 111).

[226]

/55 cont./

291 Yet nowadays, on the small islands (as well as on the outskirts of the "chief city") one sees children (especially boys) run around naked up to about five years (in exceptional cases up to nine years) even /56/ on Sundays. The reason for this is the indifference and [296] convenience of the parents who, because of the rapid deterioration of fabrics resulting from improper treatment naturally find it very difficult always to dress their numerous children (as many as 12) "decently." As a rule, however, people make an effort to dress their [177] children in small vala or panties of European fabric, and if possible, [292] make small shirts for boys and little dresses for girls to wear on Sundays, often with the addition of small ta'o-vala for the boys.

291 Summarizing the change in Tongan clothing, we note primarily 177 the replacement of the tapa and a definitive acceptance of full 178 covering. Tongan women, when dyeing (koka'anga) the long lengths of [386] tapa, often wrap a piece of old tapa around their hips to protect their fabric clothing from color spatters. If they come as guests [574] to a festival they will sometimes wear, as a vala, the tapa they have [431] brought their hosts as a gift, and at many large dances (146) [535]

146. For example, the laka-laka, ula, ma'ulu'ulu and me'etu'upaki. For details see "Dances," p. 395 ff.

women and men (if they take part) still like to adorn themselves with tapa. Aside from that, however, tapa as clothing has disappeared from Tongan life. Moreover, in the villages and in public no Tongan man or woman may defy the general fashion of clothing the upper part of their bodies. Yet the change is not as complete as in other areas of Polynesia, for example on Tahiti. For most of the Tongan men and women still adhere to the form of the vala and wear the belt mats (ta'o-vala)--probably no less than in ancient Tonga. Footgear and headgear have not become common.

/60 cont./

304 were tattooed. (167)

167. Cf. G. Forster, loc. cit. IV. p. 326; J. Cook, Beschreibung...loc. cit. VI. pp. 279/280; W. Waldegrave, Extracts.../cited in English/. loc. cit. p. 194

304 531 Tattooing, which consisted of elaborate figures and patterns, each of which had a special name, covered the abdomen and thighs, that is, all parts of the body from the hips to the knees, (168)

168. Mariner says: "...from within two inches of the knees up to about three inches above the umbilicus" /cited in English/ (J. Martin, loc. cit. II. p. 266).

including the penis. Women were little tattooed, for the most part only on the inside of the hands (fingers and palms), on the arms and sometimes on the legs, (169)

169. First observed by Waldegrave (see above).

304 554 626 with dotlike and star-shaped patterns. Among the Tongans it was generally considered unmanly not to be tattooed. Non-tattooed men would have been ridiculed by other men and more especially by women. 463 Usually special experts carried out the process when the person 413 reached adulthood. They used comblike instruments (made from the 239 wing bones of wild ducks), dipped these in a mixture of soot (from 386 Aleurites moluccana [L.] Willd.) and water, and, with a small stick and in a rather time-consuming procedure, hammered the pattern into the skin. (170)

170. Compare J. Martin, loc. cit. II. pp. 256/266.

304 171 178 This ancient tattooing, which was perhaps a fashion taken over from Samoa--although practiced for centuries--, has today almost entirely disappeared. In various villages of the Archipelago a few old men are still living who have this kind of tattoos, but they are Samoans or Tongans who some time ago submitted to the process in Samoa where this art is practiced to a certain extent even today.

/60 cont./

304 178 However, a large number of men and older women in Tonga wear tattoo marks (tatatau) in the form of letters (block letters), namely their initials, chiefly on the inside of their forearms. (171)

171. Their forearms are usually bare (short or rolled-up sleeves).

[532] In addition, one sees a few men who have pictorial tattoos, such as birds, (dove, the Tongan heraldic animal), lions or two crossed flags. These are generally worn on top of the forearm or on the chest.

Thus we find an essential change in Tongan tattooing: the old ornaments have been lost and in their place /61/ have appeared the prosaic, though in Tonga greatly esteemed letters, as well as a few European symbols. And tattooing shifted from the parts of the body generally clothed (hidden tattoos) chiefly to the unclothed forearms (visible tattoos).

Usually the operation is undertaken at the age of 16, which probably corresponds to the age for ancient Tongan tattooing. In [177] place of the old comblike bone instuments the Tongans now use European (sewing) needles (hui),,thorns of orange twigs (tala 'i moli) and needles of the kakatisi tree (tala 'i kakatisi), sometimes also shark's teeth. As in former times, they take the soot of burned [386] Aleurites or, since it is more convenient, the soot on iron cooking pots, mix it with water, apply this black liquid to the skin part to be tattooed (on the design), puncture the skin with the needle through the color solution and then wipe off the soot water--along with the blood--from the surface of the skin. After a few days the punctured skin becomes blackish and the tattoo is fully visible. Occasionally they now also use red ink instead of the soot water. The length of time required depends on the energy of the person being tattooed and his ability to withstand pain; about an hour is the average. In [463] general, any Tongan can perform this type of tattooing, but there are

513
285
[352]
(824)
/145 cont./

about 1.10 x 1.30 meters to about 1.70 x 2.60 meters. For their construction see pp. 305 ff.

However, people often sleep on a single mat. There are no specific data on /146/ the sleep mats used in ancient Tonga. It is to be [565] assumed that commoners slept on simpler mats than did the nobles. [178] Very probably the mats are in general plaited more crudely now than [531] in the old days (380)

380. For example, there are no longer any sleep mats of the quality of the old Tongan mat No. Oz. /oceania?/ 141 (Cook Collection) in the Institute of Ethnology of the University of Gottingen.

and the lo taha and fala tofua, in contrast to the fala paonga which is always in natural color (brown), are decorated not only with the traditional black plaited pattern, (381)

[386] 381. Dyed black with leaf strips buried in the mud of a bog for two or three days and boiled with manaui leaves.

but also with European colored woolen threads knotted on the borders. 513 Some Tongans spread a European white sheet over their sleep mats; but [177] only a few cover themselves with these or with wool blankets. The majority still use (especially on cooler nights) the traditional bast-fabric sleep covers. (382)

382. Perhaps these are today used more by commoners than in the past.

513 The ancient headrests, however, are gradually falling into disuse. One 352 still finds them used by a few older men and women. Some own the 178 typical Tongan headrests (hahapo) made from one piece, very few have the four-footed headrests (kali), the legs of which are fastened to the headrest in pairs with coconut-fiber cords; more commonly used than these beautiful old types (383)

531 /147 cont./

285 387. Except for the small coconut-leaf baskets generally used but once.

and ornamented with the natural-colored brown and traditionally black-dyed (388)

[386] 388. By burying in mud for two or three days and boiling with manaui leaves.

pandanus-leaf strips; (389)

389. For their construction see p. 313 ff.

some plaited bags are also decorated with pandanus-leaf strips dyed with bright-colored European dyes. Undoubtedly the baskets now being plaited in Tonga are an ancient cultural heritage. (390)

285 178

390. In principle they resemble, for example, the ancient Tongan basket No. Oz. 121 in the Ethnological Institute, Gottingen.

However, they are probably more crudely worked than in the past.--

415 The essential containers for storing clothing and smaller things used in the household, the tools, etc., are today simply old corned-beef cases, specially made wooden boxes and metal-trimmed chests. In [177] addition, a few households have European cardboard suitcases in more or less good condition. Closets are scarcely to be seen in Tongan houses, 353 except for small food cupboards (with screening) for storing dishes and smaller supplies, with which over half of all households are pro- 352 vided. Wooden shelves today likewise serve to accomodate various little 177 things, as do tables. The latter have been introduced in many houses, though they have lost their European function, since they are used mostly as places to put lamps, bottles, mirrors etc. Very few households have European /straight/ chairs, benches, club chairs etc., and even in the houses that have tables and chairs, people generally sit on the floor beside them and also take their meals there--as in old times. However, [556] the owner is very proud of such European furniture; for him it is the [574] symbol of respected Europeanism and at the same time proof of his

/205 cont./

285 [412] they cut them into strips from which they then plait the papa.

3. Sleeping Mats

lo taha:

[513] The lo taha is the most ordinary sleeping mat and often serves as the bottom mat of a complete bed for girls, women and men. It is also /206/ placed over the papa as a seat mat. On journeys (by boat) it is usually the only sleeping pad. Its size fluctuates around 1.80 x 1.10 meters.

[824] The lo taha is generally made of the pandanus species lou tofua. From the cut leaves the natives remove the thorny edges and part of the midrib with a knife; then they roll the leaves into rather large bundles (of about 40 leaves each) until the leaves change color. Thereupon the leaves are dried in the sun (about four to six days). Then they divide them along the midrib into two halves and store these rolled up (as many as 100 halves per roll) or separately. [412] Before plaiting them they draw a mussel shell or the bowl of a spoon over the leaf halves thus prepared, make them soft and pliable and cut them into narrow strips with a sharp shell splinter, a small piece of tin or a knife. The lo taha are often ornamented with [386] interwoven uniform black strips which have been suitably dyed by [824] being buried in the mud of a bog (for about three days) and boiled [531] with manawi leaves (and kokoa leaves, or also tavahi leaves). For a [531] few decades these mats have also been ornamented along the edges with [177] knotted, colored European wool threads.

fala tutu'ila:

The fala tutu'ila is also a sleeping mat and similar to the lo taha in kind and use.

It is made of leaf strips of the lou tutu'ila pandanus species which is not boiled, but simply dried in the air, like the lou paongo

/207 cont./

285 tofua is plaited out of leaf strips of the lou tofua species (for its
291 treatment see above under lo taha). This belt mat is dyed yellowish
[824] brown with a mixture of burnt coral limestone and the juice of green
[386] coconut husks (or sea water) and then pressed under the sleeping place.

ta'o-vala la (ta'o-vala tapa i'la):

The ta'o-vala la is also worn by men (and women). It differs from the ta'o-vala tofua chiefly in not being rectangular like the latter, but resembles a triangular sail (la); (535)

535. There are also ta'o-vala which are made of three smaller triangles linked together.

it is also plaited out of lou tofua leaf strips and dyed like the ta'o-vala tofua.

ta'o-vala kie:

285 This is the most valuable belt mat. Among commoners, men and
292 women use it only on especially important occasions (for example, at
565 festive church services and as part of the wedding garb of bride and
[178] bridegroom). According to a generally well-informed native on Nomuka,
[643] only the hau (i.e. the king and those of royal blood) were permitted
[644] to wear the ta'p-vala kie in ancient Tonga. Today, however, as a result of democratization, the majority of commoners own them; yet the old order is still alive insofar as a person who wears a ta'o-vala kie, except on the most important occasions, is unpleasantly conspicuous in the eyes of these natives, and is suspected of wanting to show off "as a chieftain."

285 The ta'o-vala kie is made of the lou kie pandanus species.
824 The natives cut the leaves off the plant, remove their thorny edges and part of the midrib, and roll them into rather large bundles (of 20 or 30 leaves) which they boil in a large canister (for about one-half to one hour); then they remove the upper part (upper skin) of the leaves from their lower part and place the former in the sea for

/207 cont./

285 a few days (about seven), desalt them in fresh water, dry them for
[824] three or four days in the sun and roll them up again. Before plaiting them the natives stretch these upper skins of the leaves, make them pliable and divide them into narrow strips.

Sometimes the natives smoke-dry this belt mat to make it somewhat darker (that is, yellowish brown). Nowadays, they also sometimes interweave it with lou kie strips that have been dyed with multi-
[531] [177] [386] colored, artificial European dyes.

ta'o-vala kie-kie:

The ta'o-vala kie-kie is very probably a "new discovery" that is
[291] no more than two decades old. This is not so much a mat as a plaited belt with pendant strips that are plaited in the same way. Men and women wear it like the ta'o-vala tofua.

[824] [531] They plait the ta'o-vala kie-kie out of leaf strips of the lou tofua variety of pandanus (see above under lo taha) and ornament it with interwoven black-dyed (see above under lo taha) leaf strips of the same species.

/208/

5. Display Mats

fala fihu:

285 565 The fala fihu is a valuable mat which is generally not used by commoners, but is stored away and dept for a special purpose. It is
[431] [585] given by a relative or close friend on the occasion of a wedding; a girl will give it to the man she loves, and a young man will also ask his sister for a fala fihu to give to a male of female friend as
[585] a special token of affection. At her wedding, a very well-to-do
[292] bride is wrapped in such a mat (but usually of a larger variety known
[764] as "fihu"), and at a burial the corpse is sometimes covered with it.
[513] The daughter of a high-ranking man also sleeps on such a mat.

285 824 The fala fihu is made from the pandanus species lou kie (see above under ta'o -vala kie).

/211 cont./

285 (824) (531) and from narrow pandanus-leaf strips of the lou tofua species (see above) in a spiral coil technique. "Geometric" patterns are worked in with black dyed (see above) lou tofua strips and natural colored lou paongo strips.

/212/

kato lou kie:

(482) This small pouch with a handle is used to hold money, tobacco, matches, etc. It is carried only by women and girls who like to take it along when they go shopping.

The kato lou kie is plaited by women and girls from pandanus strips (upper skin) of the lou kie species, (555)

555. See ta'o-vala kie, p. 309-310.

some of which are dyed with European colors.

kato alu:

(585) The kato alu is a "wedding basket" for a wedding of some importance in ancient Tongan style. (556)

556. See p. 114-116.

There are two shapes: a smaller, oval one for the bridegroom and a larger, round one which was originally intended for the bride.

(462) (824) These baskets, which are made only by women, are plaited with the separated midribs of the pinnate leaflets of the coconut palm and the split leaf ribs of the creeper alu. They are dyed with a (386) mixture of the soot of burned Aleurites and the sap of the koka tree (Bischofia javanica [flower]). With thin strings twisted from the (283) (237) bast of the paper mulberry tree, small rings cut out of shells (or snail shells [pule] with coconut fiber strings) are fastened to the (283) (237) outer surface of the basket. The carrying cord is plaited out of women's hair.

285 179 178 From the foregoing list of the most important types of baskets we may conclude that the natives expend considerable time, effort and

/212 cont./

285 177 178 care in making these receptacles which are still of rather fundamental importance in their everyday life. A definite change has taken place in this area, however, during the period of European influence: The number of ancient Tongan types has been reduced by the once so artisti cally plaited coconut fiber baskets (some with ornaments of shell disks) (557)

557. See J. Cook, Beschreibung...loc. cit. VI. p. 283; J. Martin, loc. cit. II. p. 295.

and today we are experiencing the gradual disappearance of the last "wedding baskets" (kato alu, see above). (558)

558. See pp. 114-116.

Even though the Tongan women still make baskets with considerable expenditure of energy and with the use of complicated methods (see foregoing list), nevertheless the results of their efforts often seem crudely and sometimes unevenly worked. The types listed are an ancient Tongan cultural heritage, except for kato lou kie. This small basket with a handle is an imitation of European purses, according to the natives. It is worth mentioning that the other types of baskets have apparently remained basically unchanged, though some of them are used only to hold European articles, and that the natives have conservatively kept the old black and white patterns of their pandanus-leaf baskets (with the original black dyeing of the leaf strips), even though European /213/ dyes are easily obtainable; the latter are, significantly, used only for the new creation of the kato lou kie.--As in old times, (559)

[531] [386] 285 462

559. See J. Cook, loc. cit VI. p. 283

basket-making is typically women's work, and the men, as in former times, (560)

560. See J. Martin, loc. cit. II. p. 294.

only plait the crude baskets (see above, kato lou niu).

/213 cont./

285
(293) i fulu fulu 'i moa:

This is the typical "good" fan of females, especially girls; they like to use it in public, in church, at choir practice, etc.

(462) (824) Women and girls plait it of pandanus strips of the lou tofua variety (as well as lou paongo); (564)

(531) 564. See pp. 306-308.

according to the old style, they work in lou tofua strips dyed black or tinted (for example, crimson) with European dyes. A wooden handle is (237) plaited in as reinforcement, and the entire edge of the fan is trimmed with white chicken down.

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i lou fau:

(462) The i'lou fau is used mostly by women, but also by men, and is made by the former.

(824) They use the midribs of the pinnate leaflets of the coconut palm, leaf strips of the lou tofua (or lou kie) variety of pandanus and (177) hibiscus bast (fau). The latter is usually colored with European dyes. (386) A wooden handle is plaited in as reinforcement. Sometimes they also (237) fasten chicken down to the edge of the fan.

285 (177) Without doubt, these are products that are basically of ancient Tongan origin. In the absence of comparative material it is difficult for us to determine how great the change is in this area. In any case, (439) the frequent use of European dyes, as well as the bits of imported construction timber used to reinforce the handle are recent influences.

(178) (565) Probably the more "elegent" fans (for example, i fulu fulu 'i moa, i tu'a niu) were reserved for nobles in ancient Tonga, and in general we may assume that the work has perhaps become cruder.

Finally, in a discussion of Tongan plaitwork we must mention sandals and hats.

/215 cont./

285 off (all around) in one strip. After it has dried in the sun for
283 about two days /216/ the white bast (= on the inner side of the re-
824 maining bark) is removed. This the women (girls) divide into narrow strips and therewith knot the mana fau which is actually only a strand of bast slung around the hips, from which the bast fibers, knotted to it in close succession, hang down to below the knees.

kie-kie lou fau:

292 The kie-kie lou fau is worn especially by women and girls, though sometimes also by men. They wear it instead of a ta'o-vala
[164] to church, when visiting chiefs, for festivals and other occasions,
[574] and for dances (laka-laka, ma'ulu'ulu, hula hula, tau'olunga, hula,
[535] ulu); they also decorate fresh graves with it.

285 This ornamental belt which originated only in recent times (end
292 of the last century?/ is made by women and girls, likewise out of
[462] hibiscus bast, and consists of a plaited belt cord on which are
[824] knotted long, narrow bast strips that hang down. It usually has
[283] special knotted ornaments in the hip section (for example, bast
[197] strips tied into rosettes), and parts of it, in contrast to mana fau,
[386] are always dyed with European dyes (particularly green, lavender, pink, and blue).

kie-kie pueki:

292 This ornamental belt, which is also worn by women and girls
[438] (and occasionally by men) in place of the ta'o-vala, is a typical product of the island of Niua Toputapu situated in the very northern part of the Archipelago. It may be an ancient cultural heritage.

292 The natives there make the kie-kie pueki, like the mana fau, of
237 hibiscus bast (with long pendant bast strips); all around the hip
[283] section, however, they knot snail shells on a band about eight centi-
[285] meters wide. The snail shells, which are whitish-yellow in their
[197]
[386]

/216 cont./
natural state, are today occasionally dyed with European dyes (for example, crimson) for ornamental arrangements.

kie-kie lopa:

The kie-kie lopa is worn by women and girls (more seldom by men) as a ta'o-vala; they also like to wear it at dances (laka-laka, tau'olunga, kailao, hula, ula, ma'ulu'ulu) and often use it to decorate their dwellings. This may be an ancient cultural heritage. It is made by women and girls and consists of a plaited cord of bast (Hibiscus tiliaceus) on which bast fibers are knotted; upon these they string red lopa seeds (Adenanthera pavonina?). Today the bast fibers of the kie-kie lopa are also sometimes dyed with European dyes.

Perhaps the principle of these ornamental belts is an ancient Tongan cultural heritage. With much love and zeal they are individually knotted today by women and girls. European dyes are an essential feature of all of them except mana fau.

The bast cloth (tapa) (567)

567. Tapa is actually an incorrect designation, though long since established even for the dyed and figured bark cloth (more correctly: bast cloth); in the Tongan language only the non-dyed edge of the bast cloth is called tapa, whereas the dyed (figured) bast cloth is called ngatu.

is still made in the Tonga Archipelago on a large scale, even though the process is very tedious and in part /217/ entails hard work, and European textiles are relatively easily obtainable for the inhabitants of all the islands.

As clothing, however, tapa is used only on certain special occasions; (568)

568. See p. 66 ff.

since the old belief in taboos has been lost, strips of bast cloth are

/218 cont./

287 Before that, however, the dye must be obtained to dye the tapa
386 lengths. This the women also take care of. From a wild koka-tree
412 (Bischofia javanica [flower]) growing on plantation land, and with a
824 scraper (me'a vau koka) made for his purpose and consisting of a metal band in the shape of a loop fastened to a wooden handle or simply a

Koka-scraper (me'a vau koka)
(Expedition Collection, No. 175)

metal band bent into shape, they first scrape off the outer grayish-brown bark layer, and then scrape a quantity of shavings from the reddish bark layer, which they take to the village in coconut-leaf baskets. (The koka-trees survive this procedure, and the same trees
287 are used again and again.) The bark shavings are soaked in water and
386 then laid upon the open, outspread pressing tube (fau tau koka) plaited out of hibiscus bast) which is thereupon tied up and wound with hibiscus bast. This large, sausage-shaped object is tied together at the ends and hung from a strong tree branch. Through the ring that is formed by the pressing-tube they insert a heavy stick and turn it so that the brown koka-color runs into a vessel placed in readiness. In order to squeeze out the "last drop" two or four women (girls) sit on the two ends of the stick.

287 Whereas the beating of the bast lengths is performed by women
386 who work separately or in twos or threes (side by side), and even
461 the koka -pressing is done only by a few women (girls) working to-
476 gether, the making and dyeing (koka'anga) of the large strips is

/218 cont./

287 386 [461] [476] generally handled by a group of 10 to 16 women (girls). (571)

571. This is a work team (kautaha) (see pp. 137-140) that carries out the process under the supervision of an older woman; a woman seldom does this work by herself.

[368] They do this work in special houses (572)

572. fale kautaha = house of kautaha (see pp. 134-136, 137-140).

on a structure built of boards, some four to six meters long, that has the shape of a cylinder cut in half lengthwise and resting on its open side. This "drum" the women first wrap with coconut fiber cords, then lay over them "raw tapa" pieces (feta'aki) and on top of these they place the printing panels (kupesi); the latter are larger or smaller /219/ panels made of pandanus leaves of the paongo species and kaka 'i niu (that is, the natural tissue at the base of the leaf stem of the coconut palm) sewed together with hibiscus bast threads, on which various decorations made from the center rib (tu'a niu) of the pinnate leaflets of the coconut palm are fastened with coconut fibers (from the husk of the nut) and with single hibiscus bast threads. On top of these printing panels, to protect them, the women again place "raw tapa" pieces (feta'aki) as "pulusi" (covering tapa) which they press firmly against the relief-like patterns and rub with dye-soaked (koka-dye) scraps of tapa (tata). Then the glueing and dyeing (koka'anga) of the large tapa lengths can commence. On the prepared bottom [381] surface they place a first layer (laulalo) consisting of several feta'aki, (573)

573. The small holes which may result from beating the tapa are first glued with patches of the same material.

press it firmly with the dye-soaked scrap (tata), smear its surface with parboiled (poisonous) manioc roots (as glue) (tou) and place on

/219 cont./

287 this a second layer of tapa (lauolunga) (consisting of feta'aki), (574)
386
(381)

574. The individual feta'aki are properly trimmed as they are laid in place.

which is pressed on (glued) and rubbed with the color-scrap soaked with koka dye, so that on the now brownish surface the darker brown patterns of the printing panels stand out in contrast. With paint-brushes (fo'i fa) (pandanus fruit) the women draw over the individual patterns. When they have finished painting the length of the tapa (575)

(412)

575. They straighten the edge of it with a knife or with scissors.

on the "drum," they pull it down far enough so that on its longitudinal edge more feta'aki pieces can be glued, layered, dyed and painted, whereupon the process is repeated again and again, so that on one side of the drum a longer and longer length of two-ply, dyed and painted tapa builds up. On both edges, which remain uncolored, the women (802) always paint the number of the segment in arabic numerals; one segment 287 is always two hand-spar wide. A finished tapa length is about 20 to 27 meters long and 3.70 to 4.40 meters wide. For special purposes (for example, as a gift to the sovereign) they make tapas that are more than 100 meters long.

The glued and dyed tapa lengths are spread out with the colored side uppermost to dry in the sun. The women also lay them in the grass in front of their dwellings before sunrise, so that the dew (and thereafter the sun) can make the bast cloth "strong and beautiful."

287 The final operation is the redrawing of the decorations on the
531 printing panels. This the owner (576)
386

576. The owner of such a long tapa is always the woman who furnished the necessary raw tapa (feta'aki); the kautaha works for each of its members in turn (see pp. 137-140).

(422)
(496)

/219 cont./

usually does herself with a wooden rod and blackish-brown color (a mixture of koka-color and the soot of burned Aleurites).

The tapa lengths are folded and rolled into balls and kept in the dwelling of the owner who, in the course of time, cuts off pieces as needed.

There are three *types of tapa, according to the methods* of dyeing:

1. ngatu tahina:

This most important, because universally used, tapa is dyed a solid brown with the exception of the border and certain parts of the decoration. The patterns are brought out with dark brown or blackish-brown lines. They represent, for example, the /220/ adornment of chieftains, striking or historically noteworthy landscape motifs, symbols of the modern Tongan state (star, crown, dove, swords), parts of ancient Tongan chieftains' houses, as well as the new palace of the king and desirable European objects such as the bicycle and gramaphone, and some also have inscriptions (block letters) which explain the meaning of individual decorations (for example, KOE SISI O TAUFAAHAU = this is the ornamental belt (sisi) of the Taufa'ahua; KOE KALAUNI = this is the crown; KOE PASIKALA = this is a bicycle; KALAMIFONI = gramaphone).

The ngatu tahina is used as a bed cover (also bed pad) for men women and children, to partition rooms and as ceiling covers in the house, as wedding clothes, to lay a corpse to rest, as a gift, and as a dance dress; in each case sufficiently large pieces are cut from the roli.

2. ngatu tapa'i ngatu:

Tapa of this kind has patterns outlined in dark brown (blackish-brown) on a surface that has been left more or less white. Their patterns are also symbols of ancient and modern Tonga (for example,

/220 cont./

287
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212 a certain flower ornament

Pattern on a ngato tapa 'i ngatu: a spitfire fighter plane (Expedition Collection, No. 27)

of a chief, parts of ancient Tongan buildings and houses of chiefs, striking landscapes, the queen's fan, the flag of Tonga, a spitfire fighter plane that the Tongans gave England in the second World War, and a nautical mark in the harbor of Neiafu), and some of them are explained by block-letter inscriptions.

287
513
351
342
431
292
764 Bast cloth of this kind is used especially as bed covers, to divide up and decorate rooms in the dwelling as well as to cover the ceiling of these, and as gifts; it is also used occasionally as a wedding and a dance dress and to cover a corpse.

3. ngatu 'uli:

287
531
386 This type of tapa is dark brown to blackish-brown (brown koka color and blackish koka and Aleurites soot). It is decorated with print panels (chiefly with the "manulua" pattern, namely, cruciform triangular patterns), or /221/ else patterns are dispensed with and the lines of the coconut fiber cords that were previously wrapped around the "drum" stand out as the pattern on the entire blackish surface.

287
513
431
764 This tapa is used chiefly as bed pad (on the top mat), as a wedding gift and as a cover on which to lay a corpse.

/221 cont./

287 wedding gift and as a cover on which to lay a corpse.

287 178 177 386 531 The customary method of producing tapa today corresponds largely to that observed by Cook (577)

577. See J. Cook, Beschreibung...loc. cit. VI. pp. 203/204.

in the second half of the 18th century and by Mariner (578)

578. J. Martin, loc. cit. II. pp. 288-293.

at the beginning of the 19th century. On the whole, and in numerous details, the work procedure has remained the same, though various changes are to be noted. Thus, European knives (and axes) replaced the shells formerly used to cut the paper mulberry trees; the outer bark is no longer scraped off the bast layer with shells; rather, bast and bark are today more quickly separated with knife and hand; manioc roots are now used as glue (in the koko'anga process) instead of the "toe" berries and maho'a (arrow root, Tacca pinnatifida Forst. f.) the koka scrapers are, of course, a modern device, just as the wooden half-cylinders with boards and nails used in dyeing have been "modernized"; the printed panels show symbols and objects from present-day Tonga and lettered inscriptions, along with the traditional patterns; moreover, the tapa lengths may today be wider and shorter if Mariner's account ("about six feet in breadth, and generally about forty or fifty yards in length" /cited in English/) is correct; the painting on of the segment numbers in Arabic numerals is, of course, the result of European influences; a certain simplification of the work process means the abolishment of the "baking below ground" (earth oven?) which, according to Mariner, was formerly customary and apparently made the color more permanent; finally, it may be mentioned that the re-drawing of the decorations is today more thorough and is not done with hea juice, but with a mixture of koka color and Aleurites soot.

/223 cont./

285 287 198 out that the Tongan women can obtain the necessary raw material from their own land, and that they are simply continuing a centuries-old tradition that has long been taken for granted. The chapters on clothing and house-building alone show that this answer does not suffice. No intensive European influences affected the area of plaiting, knotting and tapa work, as they did the area of clothing (missionization). Yet the various examples set by whites and the possibilities of obtaining new goods and materials, as in the case of house-building, could alone have caused a rather great change. /224/ The fact that this did not occur must doubtless be explained by the inertia of the Tongans, by their sometimes quite definite conservative attitude. (583)

(386)

583. Interesting in this connection is the fact that the natives can easily obtain European dyes and that they like to use them (for example, for certain types of mats and for ornamental belts), yet they strictly avoid these otherwise so popular garish colors in making their traditional pandanus-leaf baskets and in dyeing their tapa lengths.

462 E. Division of Labor and Daily Routine

The division of labor according to sex among the Tongan population living in the villages is based on the principle that the men generally do the heavy work while the lighter tasks are left to the women.

A list of the chief tasks may show this:

MEN	WOMEN
Plantation work	Food preparation and cooking
Harvest transport	Tending children
Copra-making	Taking care of house
Fishing	Washing clothes and sewing
Preparation of earth-oven	Mat-making, along with plaitwork (and knot work)
Keeping domestic animals	Tapa-making
Grass-cutting (village property)	